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ABSTRACT

The environmental scanning system at the University of Georgia Center for Continuing Education uses a technique developed in the corporate world to systematically gather and evaluate information from the external environment for decision-making within the institution. It is designed to reduce the randomness of information flowing into the organization and provide managers with early warnings of changing external conditions. The University of Georgia system, initiated in 1985, uses volunteer staff members as scanners to systematically and regularly review assigned information resources for emerging trends, changes in previously identified critical trends, or potential events with implications for the organization. Information is reported quarterly, and will be computerized. The Strategic Planning Executive Committee and the Environmental Planning Evaluation Committee review the information, the first for organizational planning and the second for its usefulness as a link with planning. The information and its analysis are disseminated widely in the institution. Since 1985, the system has identified a number of issues critical to some dimension of the Center's operation, and a number of additional benefits to the organization have been noted. Contains 39 references.

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DEVELOPING A COMPREHENSIVE ENVIRONMENTAL SCANNING SYSTEM: A CASE STUDY[1]

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DEVELOPING A COMPREHENSIVE ENVIRONMENTAL SCANNING SYSTEM: A CASE STUDY

In the past two decades the environment of higher education has become increasingly turbulent. The accelerating rate and magnitude of change in every sector of American society have created a "new tableau" of higher education [21]. There have been major shifts in the demographic composition of student clienteles, a radical restructuring of the tax code vis a vis charitable deductions, growing criticism of the quality of the undergraduate curriculum, and increasing use of electronic technologies resulting in major changes in the delivery systems of colleges and universities.

Given this rapidly changing environment, the lead time once enjoyed by administrators to analyze and respond to changes in their institution's external environment has decreased. Unfortunately, traditional long range planning models, with their inward focus and reliance on historical data, are weak in identifying external environmental changes and assessing their impact on the organization [10]. Ziegler , in his analysis of the planning techniques used by American educational organizations, concluded that the external environment was viewed as remaining static over time, with relatively few variables affecting education [39]. Callan, reinforcing this view, characterized planning in higher education as "extrapolations of institutional experience" [7].

The underlying assumption of these models is that any future change will be a continuation of the rate and direction of present trends among a limited number of social, technological, economic, and political variables; the interrelationship of which will remain fixed over time. They thus reflect an assumption that the future of the institution will reflect the past and present or, in essence, the future will be "surprise-free." We know, however, that this is not true, and the further we go out into the future, the less it will be true.

What is needed, as Jonsen argues, is a method which enables administrators to integrate understanding about various sectors of the external environment, especially as they might be interrelated; a capacity to translate this understanding into the institution's planning activity; and a sufficient priority given to the activity to ensure its translation into decisions and implementation [17]. The Board of Directors of the American Association for Higher Education determined that awareness of social trends and developments was the highest priority need for college/university leaders [2].

A technique has been developed in the corporate world to systematically gather and evaluate information from the external environment--the environmental scanning process [19, 37, 38]. Brown and Weiner [4] define environmental scanning as "a kind of radar to scan the world systematically and signal the new, the unexpected, the major and the minor." Aguilar [1] has defined scanning as the *systematic* collection of external information in order to (1) lessen the randomness of information flowing into the organization and (2) provide early warnings for managers of changing external conditions.

Fahey, King, and Narayanan [4] have characterized scanning as either irregular, periodic, or continuous. Irregular systems respond to environmentally generated crises and attempt to reduce uncertainty in the near-term.

Periodic systems, more sophisticated and complex, exhibit more proactive characteristics. For example, at Cantonsville (Maryland) Community College or Georgia Southern College, one or two individuals in the planning or institutional research office conduct and periodically update a literature survey of forecasts in the social, technological, economic, and political sectors of the external environment [26]. Many times the scan may be restricted to one or two sectors of the environment. Jonsen, for example, in the periodic scan of the California Postsecondary Education Commission uses only demographic and economic data [17]. At other times, scanning may be confined to selected key environmental issues, trends, and domains . At the University of Minnesota, the Experimental Team on Environmental Assessment (ETEA) identified 20 to 30 issues to track [15].

The continuous system is the most sophisticated and proactive type of environmental scanning. This system attempts to enhance the organization's "capability to handle environmental uncertainty rather than to reduce perceived uncertainty" [l4]. It is therefore vital to the planning process.

The Georgia Center for Continuing Education has developed a continuous environmental scanning project that attempts to identify signals of change in all sectors of the external environment. Selected information resources from the social, technological, economic, and political aspects of the environment at the international, national, regional, and state levels, are systematically and regularly reviewed by project participants. This is the most comprehensive scanning system operating in a university setting at the present time.

The purpose of this paper is to describe the environmental scanning project at the University of Georgia Center for Continuing Education. This includes a description of the history, structure, and circumstances which led to the initiation of the project. Next is an account of how the structure was established and how the system operates to provide strategic direction in organizational and program planning, concluding with an examination of the benefits, costs, problems and issues experienced in operating the system, as compared with the Experimental Team in Environmental Assessment (ETEA) project at the University of Minnesota.

The Georgia Center Environmental Scanning Project[2]

The University of Georgia Center for Continuing Education opened in January 1957. The Center, on the edge of the University of Georgia campus, resembles a small residential college with the major exception that the "students" are adults and stay in residence only for a few days to a few weeks. The three divisions of the Center--instructional services, telecommunications and media services, and hotel and operating services--provide adult students an environment in which to learn, sleep and eat under one roof. The Center offers programs across the state and beyond its borders. During the 1985-86 academic year, approximately 100,000 adults were served by some 245 full-time Center faculty and staff and several hundred University of Georgia faculty members on a part-time basis.

Project Scan was initiated in 1985 when the Center Director employed two consultants to introduce the concept of environmental scanning to the professional staff. Introductory seminars were followed by a workshop in May 1985 that produced a preliminary set of trends and events to be monitored and included instruction in scanning, abstracting, and elementary forecasting. By September 1, 1985 the environmental scanning activity was organized as a project of the Director's office.

Project Structure

The Center director serves as a project director, and the assistant to the director serves as the project manager of the Environmental Scanning Project (see Figure I). There are two review committees: the Environmental Scanning Evaluation

Insert Figure 1 about here

Committee (ESEC), consisting of volunteer scanners from each of the three divisions, and the Strategic Planning Executive Committee (SPEC). SPEC consists of the director, associate directors, assistant directors, the marketing and communications officer, a telecommunications representative, a facilities representative, and the assistant to the director, who, as project manager, serves as liaison between the two committees.

Scanners are volunteers from both the line and staff ranks of the Center. Each scanner is assigned one or more information resources (from a broad range of such resources) and is requested to systematically and regularly review the assigned sources for emerging trends, changes in already identified critical trends, or potential events that have implications for the Center and its programs. When they identify such a trend or potential event, scanners complete an abstract form that includes a bibliographic citation, a summary and a written commentary of the implications seen by the scanner. The Project Manager then files the abstract in accordance with a taxonomy.

Scanning Taxonomy

The major purpose of a taxonomy is to be able to classify abstracts produced in environmental scanning for easy retrieval. The Center chose to modify the taxonomy developed by United Way of America. A comprehensive taxonomy resulted, which reflects the broad scope of adult and continuing education within the context of a large land grant university. Taxonomy modifications reflected the Center's specific needs: for example, hotel and food service management; conference/seminar development and management; the "training" phenomenon spawned by government, business and industry as well as professional associations; program development advances in areas in which the Center can utilize UGA faculty expertise; and technological advances in instructional delivery systems. Eventually the system is to be computerized; therefore it is important to have a carefully defined retrieval system.

The Quarterly Reporting Cycle

The reporting cycle includes a complete description of how the scanning project operates.(See Figure 2). This cycle, conducted three times per year, consists of a

Insert Figure 2 about here

number of sequential components: announcing the quarterly abstract deadline, preparing abstract evaluation materials and review packets, conducting the Environmental Scanning Evaluation Committee (ESEC) meeting, distributing abstract evaluation packets to the Strategic Planning Evaluation Committee (SPEC), preparing the ESEC report to SPEC, receiving and tallying SPEC abstract evaluations, distributing the ESEC report to SPEC, conducting the SPEC meeting, preparing the newsletter, and following-up SPEC

actions. Throughout this cycle routine scanning and abstracting are performed on a continuous basis. The cycle begins with the announcement of the quarterly abstract deadline.

The Quarterly Abstract Deadline

The Project Manager announces the quarterly abstract deadline in a memo to all scanners. This announcement includes a deadline for the close of the quarterly reporting cycle and serves as a signal for all scanners to submit their "in progress" materials. It also includes the time, place, and date of the ESEC meeting.

Preparation of Abstract Evaluation Materials

The Project Manager reviews each abstract, assigns a primary and secondary taxonomy code to it, and files it by code and quarter for easy retrieval. In addition, she develops a "Strategic Planning Worksheet" which categorizes the abstracts under general statements related to trends, issues, or events. The worksheet has several components: "strategic thinking stimulators" that capture the essence of the trends, issues, or events that have surfaced that quarter; the abstracts pertaining to each area by taxonomy number; and a brief summary/implications sections for each area. (See Figure 3.) This worksheet forms the basis of the ESEC and SPEC meetings.

Insert Figure 3 about here

It should be noted that when the project was initiated, all members of the evaluation committee reviewed and discussed the abstracts produced in that quarter during a half day meeting. The objective was to ascertain the environmental threats and opportunities to the Center suggested by the entire collection of abstracts and associated articles. However, the time set aside for this activity was insufficient for thoughtful analysis and discussion. Given the busy schedule of staff members, more time could not be allocated. Also, although all staff members were encouraged to browse in the files at their convenience throughout the quarter, most found that they did not have time to do so. Consequently, the project manager undertook the task of reviewing and categorizing the abstracts submitted each quarter.

The Environmental Scanning Evaluation Committee Meeting

All Georgia Center scanners who do not serve on the Strategic Planning Executive Committee are invited to serve on the Environmental Scanning Evaluation Committee. The purpose of making membership voluntary is to encourage participation of all staff members in the Georgia Center's strategic planning process. The purpose of ESEC is to gain the thinking of organizational members who have participated in the scanning process, and, thereby, provide a direct relationship between the scanning activity and organizational planning. By including scanners in analysis activity, the importance of the process is recognized, thereby increasing the motivation for scanners to invest time and energy in the activity. The number of staff members participating on this committee ranged from 14 to 25 over the first year.

The ESEC meeting begins with committee members independently reviewing a copy of the "Strategic Planning Worksheet" and identifying their six or seven priorities for discussion. Members are instructed to identify on a tally sheet seven or eight

strategic thinking stimulators (approximately one-third of the number produced each quarter) that have the most salient implications for the Georgia Center. Then, in round robin fashion, they publicly cast one vote for a stimulator they consider important to the Center. The tally is recorded on a flip chart during each round. This process continues until each member of the group has exhausted his or her allocated quota of votes. Through a modified nominal group technique, the top four issues are then identified and discussed by the committee. The primary purpose of this activity is to clarify, focus, or expand the issues as they relate to the Georgia Center and to make recommendations of the strategic planning process to SPEC.

The Strategic Planning Executive Committee Meeting

After ESEC's meeting, the project manager initiates SPEC's formal review of the "Strategic Planning Worksheet" and the quarter's abstracts. The project manager delivers to each SPEC member the "Strategic Planning Worksheets," a voting form, and all abstracts collected that quarter. The project manager tallies SPEC's anonymous votes, generates a comparison of the top issues surfaced by ESEC and by SPEC, and delivers ESEC's written report to SPEC members.

The Strategic Planning Executive Committee meets for a half-day. The purpose of this meeting is for the decision-makers to evaluate the scanning information gathered during the past three or four months within the context of past analyses and derive the implications of these analyses for organizational planning. Therefore, the first order of business is to formulate an update on the action agenda set by SPEC in previous meetings. Planning adjustments and a new agenda may develop in these discussions.

The second order of business is to examine and discuss the final comparison of ESEC and SPEC votes as to those trends, issues, and events that have the most implications for the Georgia Center's future. A crucial concern is: Are the same issues surfacing from "bottom-up" as from "top-down"? If there are conspicuous differences, what do they indicate to Center management?

The third order of business is to discuss and act upon the three top concerns identified in the ESEC meeting. Most often, at least two of ESEC's top concerns are independently derived by SPEC. These discussions are broadened by the perspectives and orientations of SPEC members. ESEC recommendations may be adopted, modified, or rejected (within the context of the Center's overall strategic plan), or SPEC may generate an alternate solution. In addition, SPEC members may discuss and act upon concerns not identified by the ESEC.

Post-Analysis Follow-Up

The Center Director desires that environmental scanning information and the result of the SPEC analysis be widely disseminated throughout the organization. A memorandum from the Director to SPEC summarizes the meeting and the action assignments. This memorandum, along with a comparison of top concerns generated by both SPEC and ESEC, is distributed to ESEC by the project manager. In addition, the project manager compiles and distributes to all Georgia Center employees an environmental scanning newsletter, *Lookouts*. Most of the material for *Lookouts* is gleaned from abstracts and summarizes national, regional, state, and local issues. Included in each edition are the top strategic concerns identified during the quarter by SPEC and ESEC, as well as programming ideas identified by scanners.

Use of Scanning Information

From September 1985 until April 1987, the environmental scanning project at the Georgia Center identified a number of issues viewed as critical for some dimension of the Center's operation. For example, both SPEC and ESEC evaluated such issues as adult illiteracy, increased litigation, plateaued employees, and childcare.

Everyone in the Center recognized adult illiteracy as a major social issue. However, the Director had not considered this as a responsibility of the Center since most of the individuals who enroll in Center programs have post-baccalaureate degrees or have employment responsibilities that require literacy. Even-so, scanners throughout the Center over several reporting cycles identified articles reporting the dimensions of this problem indicating that they thought this was an issue which should be addressed by the Center. Members of the Evaluation Committee concurred. Because of the historical mission of the Center and because discussion of the issue revealed differences as to how illiteracy was defined, how the problem should be approached, and possible solutions, SPEC initially took no action. Due to pressure from members of the Evaluation Committee, it was agreed to employ two consultants to write a paper describing the dimensions of the problem in the state of Georgia. This paper has not only served to guide the Center's courses of action, but was requested by a standing committee of the Georgia legislature to assist them in formulating their response to the issue.

A second issue which emerged in the scanning process concerned increased litigation. One article in *The Chronicle of Higher Education* related the concern by many individuals who owned businesses over "unfair competition" between themselves and tax exempt (and publically supported) colleges who operated educationally unrelated businesses. The issue was being explored by various state legislators, including Georgia's, and was the focus of a session at the 1987 annual meeting of the National University Continuing Education Association meeting.

A number of articles described legal difficulties by various higher education agencies. The University of Arizona Conference Center was su ed by a disgruntled client group which had booked a large ballroom but, because of construction delays, was moved to a tent on the hotel grounds. "Educational malpractice" appears to be emerging a new type of negligence tort. "Information liability" suits are based on the argument that producers of information bear responsibility for the accuracy of the information as well as some responsibility for the use of the information. SUNY-Buffalo was found negligent in a case where one student was raped and murdered by another student, the argument being that the institution permitted the offender to matriculate without consideration of the safety of other students. A number of individuals were sued because they wrote negative letters of recommendation.

SPEC concurred with the Evaluation Committee on the threat that litigation posed to the Center and recommended that the Director secure readily available legal counsel that would conduct a legal audit of the Center. The Director found that the University system did not permit units to commission legal audits. The Director is currently seeking to modify the University's approach to securing legal advice (Simpson, personal communication).

A third issue centered around the "plateaued employee" (i.e., those employees who are not likely to advance in the organization either due to their own capacity or due to a lack of positions). Relatedly, a Boston University study indicated that 78% of all such workers distrust their supervisors and that 43% were cynical "about life in

general". Other articles on this subject offered a number of suggestions which could be used to satisfy plateaued employees' needs for recognition and growth, such as allowing lateral transfers to positions which may pose new challenges and changing the organizational climate so that the value of productive employees is recognized and respected.

The Evaluation Committee recommended that SPEC seek to develop a reward structure for plateaued employees. SPEC members agreed with the assessment of the importance of this issue to both the individuals involved and to their effectiveness within the organization. They appointed an ad hoc committee to investigate options to reward these employees within the rules and regulations of the University system.

A fourth issue surfaced through two scanning cycles on which no decision was taken by the Center as an organization, but which was used in providing direction for program development--childcare. Currently one in four mothers working outside of the home (13.3 million women) has a child under age twelve. Over the next five years, the ranks of working mothers with young children is expected to grow about one million per year. The U.S. is the only democratic nation in the world with no guaranteed maternity leave. Across the country, college students are increasingly demanding campus childcare. In San Fransisco, the mayor signed a bill requiring that area developers of major office buildings or renovations either had to provide on-site childcare or contribute to a city-wide childcare fund. Currently in Georgia little training is required before an individual can work as a childcare employee or operate a childcare center, a situation which is likely to change given the concern over this issue. Although this was not an issue for the direction of the Center as an organization, the program implications which came out of the ESEC and SPEC discussions influenced the Program Development Department's decision to design a certification program in childcare.

Evaluation of the Project

There have been two evaluations of the Georgia Center's Environmental Scanning Project. The first, conducted internally by Simpson, McGinty, and Morrison, was initiated in January, 1987 and has been described elsewhere [35]. The second evaluation was conducted as part of Murphy's doctoral dissertation from October 1986 to April 1987 [29]. The focus of the internal evaluation was a survey which asked current participants in the environmental scanning project (N=43) for an evaluation of (1) their participation in various aspects of the project, (2) the ability of their colleagues to analyze trends, issues, and events, (3) the benefits of the project, and (4) their recommendations for improving the project. The Murphy study was more comprehensive, in that all employees of the Center who at one time were listed as scanners were surveyed (N=93, 34 of whom were active scanners in March, 1987 and 59 of whom had not participated during the 1986-87 academic year), a sample of scanning participants was interviewed (N=10), and the investigator reported his own observations from attending meetings of SPEC and ESEC. Murphy [29] focussed on (1) reporting employee beliefs concerning the Georgia Center's ability to implement change through the use of the scanning process, (2) exploring the effect of the process on communication between line and staff members, and (3) describing the scanning process.

Many of the questions in both surveys were similar and were asked just three months apart. (The internal survey was in January, 1987; the Murphy survey and interviews were conducted in March, 1987.) Moreover, return rates were relatively

high. The internal survey had a 74% return; Murphy reported an 85% return from active scanners and an 83% return from inactive scanners. A comparison of the results of both studies, therefore, enables us to develop a perspective of the environmental scanning process and the effects of this process on an educational organization.

Participation

Simpson et al. reported that 25% of the participants submitted from l-3 abstracts per quarter, 28% of the participants submitted from 4-l0 abstracts, and l9% submitted over ll abstracts during this period (for an overall 72% participation rate). Twenty-eight percent did not submit any abstracts during the first year of the project. Murphy reported that on the average, participants scanned 25 articles per quarter, wrote five abstracts, and spent three hours per week in this activity.

Communication

Simpson et al.. [35] asked participants to evaluate the "feed-back" loop used in the project (i.e., ESEC forwards its concerns and recommendations to SPEC, and SPEC sends a summary of its discussion back to ESEC). All SPEC members and 62% of ESEC respondents saw the feedback loop as a beneficial process. Those who did not check "beneficial" were asked to comment. One respondent thought that there was "mostly lip service to analyses and conclusions." Several others recommended a joint meeting of the two committees after both had analyzed the quarter's abstracts and strategic planning worksheets.

Murphy [29] asked survey respondents if the process had increased communication between the line and staff members of the Center. Forty-one percent of the active participants responded "yes," 3l% responded "unsure," and 29% responded, "no." Non-participants were asked if the process could increase communication. Forty-five percent of these respondents responded "yes," 40% were unsure, and l5% said, "no." When Murphy [29] asked active participants if there had been adequate communication between them and the project manager, 86% responded, "yes."

Murphy's survey data [29] were supported by his interview data. Three respondents perceived more information sharing than communication (i.e., there was not increased dialogue between SPEC members and other staff members). Some staff members did not see increased organizational communication as a function of the scanning process. Others disagreed and maintained that professional staff members were now more comfortable talking with SPEC members about the future of the Georgia Center, although communication from the "bottom-up" was not increased as much as these staff members desired.

Benefits of the Process

Simpson et al. asked respondents to rank order five specific "benefits" of the project and to identify others not specified on the questionnaire. The rank order of benefits was as follows: (l) provides assistance in linking the Center's future to external threats and opportunities; (2) provides useful programming suggestions; (3) fosters cross-divisional communication and understanding; (4) enhances staff development; and (5) results in the newsletter, *Lookouts*. Contributed "benefits" centered on such things as assisting management to keep informed of new developments, identifying marketing opportunities, providing for wide participation in planning the Center's reputation as a leader in continuing education, and facilitating personal development.

Murphy asked survey respondents to list up to three strengths and three weaknesses of the scanning process. He recorded the open-ended responses by participants' role (SPEC member, ESEC member, and non participant). SPEC respondents perceived that the scanning process enhanced communication by providing an opportunity for department heads and staff members to discuss current issues together, encouraging communication across division components, improving dialogue between management and staff, identifying conflicting views, and providing for an "academic" exchange among the staff. ESEC members noted that the process not only enhances communication within the Center, but allows a voice from middle management in decision-making, and keeps the organization up-to-date.

ESEC members also noted that the process aids both short- and long-range planning, builds a planning data base, hones a competitive edge, involves more staff in overall Center efforts, and enhances professional and personal development. SPEC members noted that the process expedites the decision-making process, helps organize for the future, and enables self-development. Interestingly, more strengths were listed by non-participants, who also discussed the implications of the process for program planning and market identification.

Murphy's interview respondents were also asked to elaborate on the strengths of the process [29]. They commented on increased organizational horizontal and vertical communication, opportunities for staff-wide participation in planning, and opportunities for individual development.

Perceived Weaknesses of the Process

Murphy recorded a number of perceived weaknesses from his survey respondents. SPEC members noted that the process seems to take a long time to resolve issues raised, includes concern for long-term planning at the expense of short-term planning, requires staff skilled in synthesis and analysis, is too time consuming, is dependent upon consistent abstracting by all staff, and could be more effective if all professional staff participated. ESEC members maintained that the reporting system was cumbersome, had insufficient feedback, was process rather than results oriented, was dependent upon skills of scanners, involved difficult and time-consuming abstracting for non-writers, created distorted views by a limited number of scanners, and involved an overwhelming amount of material. Non-participants identified a number of perceived weaknesses, including a lack of action when a need is identified, lack of support staff, use of irrelevant material, a feeling that ideas submitted are not given much consideration, few indications that the process has evoked changes, little relation to staff responsibilities, and biased reports.

Murphy's interview respondents commented on a perceived lack of impact of the process on decision-making and the time-consuming nature of the activity. Others expressed doubt as to their competency to decide what was important in the information obtained through the process; one respondent commented on the failure of colleagues to scan or to abstract well.

Overall Evaluation

Simpson et al.. reported that out of 30 participants who responded to a request for an overall evaluation of the project, I6 (53%) noted that the project was "well

worth the time and effort," 13 (43%) noted that it was "probably worth the time and effort," and one person said that it was "not worth the time and effort." Of the respondents who were SPEC members, 70% voted that the project was "well worth the time and effort;" 30% voted that it was "probably worth the time and effort."

Murphy asked his interview respondents about the effectiveness of the process in meeting the needs of the Georgia Center's target population. All respondents thought that scanning was successful in identifying market needs, but several commented that "it is still too soon to tell." One respondent said, "I think it...the real value of the system won't be apparent for five or ten years. Will we stay committed that long? I hope we do."

Suggestions for Improvement

Simpson et al. requested respondents to make specific suggestions for improving the system. Several respondents commented that the information sources currently used should be reevaluated and new sources identified, particularly non-print sources such as conferences, radio, and TV. Others reported a problem in finding time to participate in scanning, writing abstracts, and evaluating abstracts. One person suggested that "ghost-writers" be employed to write abstracts of articles identified by scanners; another suggested that lead writers be employed (and rewarded) to write the majority of abstracts, with assistance from everyone identifying articles to be abstracted. One respondent said, "Involvement in the scanning process should be an integral part of each employee's job, not an add-on volunteer effort."

Several comments indicated tension between members of SPEC, the formal leaders of the Center and other staff members. For example, a SPEC member said, "I believe that SPEC has demonstrated an unwillingness to consider suggestions or criticism from 'THEM' as attempts to be constructive. Unless SPEC discovers some way by which it can develop objective views of information coming from the outside . . . and can treat that information with respect, I fear the effort is doomed." Another respondent recommended inviting ESEC members to participate in SPEC meetings, a recommendation that appeared designed to facilitate communication within the organization.

Murphy reported that his survey respondents made a number of suggestions. With respect to communication, suggestions focussed on developing a more visible link between scanning efforts and the impact of this information on decision-making for all members of the Center. This could be accomplished in part by inviting ESEC members to the SPEC meetings and distributing SPEC minutes to all Center staff. One respondent wanted to eliminate the division between SPEC and the ESEC. There were also suggestions to require participation of the professional staff and invite representation from clerical and secretarial members.

Suggestions vis a vis the process included requiring an abstract quota per scanner, having quarterly brainstorming sessions on trends prior to the evaluation of abstracts to see what trends or issues surfaced that were not in the abstracts, eliminating "attaboys" to scanners, and spending more time educating scanners in abstracting and writing. One respondent suggested computerizing the data base; another suggested linking the process with a major continuing education association to give the process (and the Center) status; and still another suggested marketing the data base as a national subscription service through the Georgia Center electronic conferencing network.

Murphy asked his interview respondents for a single recommendation to improve the process. Suggestions included developing a more simplified procedure of abstracting and reporting scanning information, spending more time in analysis and synthesis of the information, obtaining more involvement of clerical as well as professional staff, and adding informal sessions to discuss implications of the quarterly SPEC and ESEC meetings.

Discussion

As Hearn and Heydinger [15] note, several authorities have commented on the difficulties of implementing information systems and forecasting models in colleges and universities ([5], [23], [24], [33]). Moreover, in their review of the literature, Hearn and Heydinger [15] identified a number of constraints to environmental scanning in a university environment. For example, they noted that colleges and universities have rather vague and diffuse goals, their environment is limitless, are loosely coupled, are resistant to change, and require participatory governance. Moreover, the organizational culture of institutions of higher education is restrained and rational, and, thus, counter to a planning method that requires trusting hunches, tracing hints in nonacademic and fugitive literature, and piecing together a narrative out of disparate clues from a variety of information resources. Finally, not only is environmental scanning time-consuming and costly, but, in the academic culture, it may also be viewed as an attempt to adapt to externally-imposed conditions, an attempt that some could be interpreted as representing a consumer orientation. This perception could hinder support from the faculty.

Given these constraints, it may be that environmental scanning is an approach that can be implemented in a university setting only with great difficulty. However, members of the University of Minnesota Experimental Team on Environmental Assessment (ETEA) thought that their effort at environmental scanning was worth continuing [15]. Furthermore, they believed that their activities served to prod administrators to think in environmentally--sensitive ways, as well as to produce important information regarding external developments.[3] As may be noted from the discussion above, professional staff members of the Georgia Center concur with the value of the program.

The Georgia Center for Continuing Education is similar to a college in many respects. However, the Center differs from a college in several ways. The director and his associates exercise more line authority than a president, dean, or department head at an independent college. The Center is not as loosely coupled as a college or university. Although UGA faculty members teach at the Center on a part-time basis, they have taken little interest in the governance or management of the Center. Therefore, the experiences of the Center staff in establishing and implementing an environmental scanning system may have to be adjusted to accommodate the culture of an independent academic college or university.

It may be instructive to compare the Georgia Center's environmental scanning project with the Minnesota project as reported by Hearn and Heydinger [15]. For example, the evaluation of the Minnesota project centered around such crucial questions as: Who should do the scanning? How should the effort be organized? What should be produced?

Who Should Do the Scanning?

As noted in the description of the Georgia Center project, each member of the Center was invited to participate as a scanner. The alternative would have been to invite selected individuals from each functional area. Because this was an experiment and was instituted not only for the purpose of informing the strategic planning process, but also as a means of facilitating personal and professional staff development, participation was voluntary. Consequently, over 40 individuals participated at various times, and all functional areas were represented.

The Minnesota team was also voluntary and consisted of six individuals [I5]. Members of this team performed the scanning, abstracting, and evaluating. When asked to comment on who should do the assessing, several members expressed concern that too much diversity, or having too many people involved in assessment, could be dysfunctional (i.e., the voluntary nature of the activity might be too fragile to accommodate inherent tensions or diversity). However, the Georgia Center Director maintains that the diverse and large number of scanners enabled the Center to expand the quantity and diversity of information resources regularly reviewed for "signals of change."

How Should the Effort Be Organized?

The Minnesota scanning project and the Georgia Center project were organized differently. At Minnesota, the effort was organized to link the identification of core issues for assessment and tracking [15]. After brainstorming a list of critical issues, the Minnesota team concentrated on scanning information resources pertinent to approximately 30 issues identified in the initial stages of the project.

The scanning effort at the Georgia Center also began with a brainstorming activity to identify critical trends, events, and emerging issues. However, the purpose of this activity was to use this information in developing the scanning taxonomy, and in training scanners. After the taxonomy was developed and scanners were assigned specific information resources, the focus of the process was to identify any signals of change in the broad (social, technological, economic, and political) external environment from the hundred or so information resources. Moreover, the scanning activity was spread throughout the organization, an organizational pattern that was rejected by the Minnesota team [15].

The Minnesota project also differed in its location within the organizational structure [15]. The scanning effort originally began when selected administrators were asked to review literature vis-a-vis important trends in the social, technological, economic, and political spheres. Shortly after this task was accomplished, the Experimental Team on Environmental Assessment was formed. Although the scanning project had the informal blessing of a senior administrator, the project was designed, developed and implemented as an informal experiment. In contrast, the Georgia Center project is centrally related to the planning process; the director serves as project director, and his assistant is assigned half time to manage the project. The Strategic Planning Executive Committee carefully considered the information produced by that process in quarterly assessment and planning meetings.

Placing the environmental scanning project as an official, formal part of the organization and encouraging volunteers to participate means that the administration must be willing to embrace debate over the implications of the information that has

surfaces in the process. Of course, as Hearn and Heydinger note, a number of authorities maintain that a healthy goal for administrators is a willingness to embrace error and learn from it, rather than avoid it or cover it up ([3],[19]). At the initiation of the project at the Georgia Center, it was foreseen that encouraging staff members to identify and abstract information items that had implications for the welfare of the Center would produce feelings of "ownership" and responsibility for the direction of the Center in those staff members. It was unforeseen, however, that strong differences of opinion could also be a product of the process, particularly since the senior management of the Center believed in participatory management and initiated a process that encouraged a "bottom-to-top" information flow.

For example, while members of SPEC and the evaluation committee viewed the need for personal renewal and organizational innovation as essential for the Center, they disagreed on how to obtain them. Even though a course of action was decided upon (i.e., incentive grants), the decision process highlighted potentially troublesome differences in organizational culture.

Most of the SPEC members expressed the viewpoint that innovation, experimentation and risk-taking were on-going facts of life at the Georgia Center, and, therefore, there was no need for a special "renewal" program. On the other hand, many members of the evaluation committee viewed senior management as conservative and non-risk-taking. While SPEC members talked of experimentation and innovation inherent in the operation of the Center, evaluation committee members maintained that there was no reliable way in the Center to promote and implement new ideas.

Closely associated with this issue was a continuing discussion in SPEC meetings related to the values of baby boomers and the implications of this issue for the management of the Center's workforce. A scanning "find" in The Futurist [12] focused discussion on the impact of "baby boomers" on organizational cultures and how organizations dealt with their attitudes. Deutsch [12] divided the workforce into three broad categories--pre-World War II (born in 1926 or before), "TV" or "baby boomers" (born between 1946 and 1964), and "computer babies" (born from about 1966 through 1975). Each of these groups was characterized within specific categories, such as preferred work environment, goals, work medium, time values, information, acculturation, media and consumption. Those preceding the "baby boomers" were viewed as more structured and directed toward "getting the job done for the good of the organization." The "boomers" and the "computer babies'" attitudes were focused more on individual desires and increased organizational flexibility. At the Center, there were no pre-World War II employees who were members of SPEC, although several individuals were relatively close. The evaluation committee had a number of "TV babies," or "boomers," as well as some "computer babies." Consequently, generational differences surfaced. The evaluation committee perceived senior management as conservative and laissez-faire, while many SPEC members believed that some staff members had not internalized the work ethic. Thus, a scanning issue on ways to develop innovative programs underscored and complemented an issue important to organizational behavior.

What Should Be Produced?

The Minnesota team [15] emphasized that the products of the environmental scanning process should be developing issues that will affect the institution, its constituencies, structures, and processes, and raising the consciousness of the leadership regarding issues. Moreover, the products delivered to the administration should be crisp executive summaries directed to facts and alternatives, and not

recommendations for action. In contrast, SPEC members were encouraged to examine abstracts as well as the evaluation reports produced by ESEC that included recommendations for action. This process has worked well for the Center; but there is a difference in attempting to determine the strategic direction of a center as opposed to a research university.

Both the Minnesota team and the Center project participants felt that the experiments in environmental scanning were successful, and produced meaningful products. In fact, at the Georgia Center, the information produced in the scanning process has been valued by individuals in organizations outside of the Center. For example, there have been several inquiries about sharing the scanning information and analyses on an on-going basis (McGinty, personal communication).

However, there is some concern that all management decisions are being based upon the scanning process. In fact, information from the environmental scanning project forms only one part of numerous data sources fed into the decision-making process. As Jonsen [17] argues, an understanding of the environment and its opportunities or threats should not dictate an organization's course of action. Scanning's outstanding virtues are that it permits a systematic review or "tickler file" for the organization of priorities and issues that are dealt with over an extended period of time. The system provides no "quick fix" or gimmick for management. It requires an intensive amount of work by a few individuals and some work by many individuals. It is frustrating and demands the commitment of an invaluable resource--time.

This point raises another question: once involved in a systematic environmental scanning effort, how can it be sustained? How can staff members continue to be motivated to spend their time scanning, writing abstracts, and attending quarterly meetings evaluating abstracts? One key to sustaining motivation is the perception that the time and energy expended is resulting in improved organizational and programmatic decision-making. The project manager attempts to do this by disseminating the results of SPEC meetings to all staff members and by publishing *Lookouts* each quarter. Still, as revealed in both evaluation studies, some staff members are unaware of these activities, even though the project manager conducts "what happened" meetings immediately after the SPEC meeting for all staff members and includes a section in *Lookouts* that monitors the progress of decisions stemming from SPEC meetings. In addition, the Director requests managers to use the information provided by the environmental scanning project in making decisions, and to encourage their subordinates to regularly review the scanning files for their relevance to immediate operations. The results of this activity are publicized in *Lookouts*.

A number of ancillary benefits of the process have been noted [35]. Any group of professionals in today's world faces information overload. While the environmental scanning project certainly does not expose participants to all the literature in their domain, it does offer a systematic, formal approach to important literature related to the individual's particular specialization. Although this exposure is uneven in nature, it is a substantial and serious effort to deal with the issues produced by the process, both individually and as members of a decision-making body. The analytical skills required by each scanner to summarize articles, assess them within the context of the Georgia Center, and promulgate implications for the Center, both from programming and organizational perspectives, sharpen professional reading skills and analytical abilities, and expand personal knowledge. As Hearn and Heydinger [15] note, ". . . by turning around ideas and challenging various perspectives on the world, the . . . dialogues reinforce a long lost and much valued ingredient into the university". The dialogue contributes to employee satisfaction and growth, and thus to organizational effectiveness.

To conclude, the environmental scanning project has had an impact upon the Georgia Center from several perspectives. It has provided a procedure by which professionals at various administrative levels with differing program responsibilities can make suggestions to senior administrators and even debate issues with them. It has forced management to deal systematically and cyclically with issues raised by subordinates as well as peers. The issues that have been raised have spawned rich, thought-provoking discussions that likely would not have taken place without the process. Moreover, it has stimulated a new approach to planning while the methodology is still developing.

Notes

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[2]The information describing the setting and project structure/process is modified from Simpson, McGinty, and Morrison, 1987.

[3] However, Richard Clugston in a personal communication (June 24, 1988) indicates that this opinion may not be shared by the administrators the team hoped "to prod."

References and Additional Sources

1. Aguilar, Francis. Scanning the business environment. New York: Macmillan, 1967.

2. American Association for Higher Education. "Environmental Scanning Institute." Unpublished report, July 31, 1979.

3. Baldridge, J. Victor and Patricia H. Okimi. "Strategic Planning in Higher Education: New Tool or New Gimmick?" AAHE Bulletin, October, 1982, pp 6, 15-1

4. Brown, A. & Weiner, E. Supermanging: How to harness change for personal and organizational success. New York: Mentor, 1985.

5. Bloomfield, S.D. and D.A. Updegrove. "Modeling for Insight, Not Numbers." EDUCOM Bulletin, Fall, 1982, 5-9.

6. Buhler-Miko, Marina. "Six Steps of Strategic Planning." Address to the Higher Education Strategic Planing Institute Meeting at American Association of Higher Education Conference,, Chicago, Ill., March 15, 1984.

7. Callan, P.M. (Ed.). New directions for institutional research: Environmental scanning for strategic leadership. (Vol. 52). San Francisco: Jossey-Bass, 1986.

8. Coates, J. F., Inc. (1985, July). Issues identification and management: The state of art of methods and techniques. Research project 2345-28. Palo Alto, California: Electric Power Research Institute, 1985.

9. Cohen, M. and J. March. Leadership and Ambiguity. New York: McGraw-Hill, 1974.

10. Cope, Roberto. "Environmental assessments for strategic planning." In N.L. Poulton (Ed.), New directions for institutional research: Evaluation of management and planning systems (Vol. 31, pp. 5-15). San Francisco: Jossey-Bass, 1981.

11. Deets, N. & Morano, R. "Xerox's strategy for changing management styles." Management Review, 75 (1986), 3, 31-35.

12. Deutsch, R.E. "Tomorrow's workforce: New values in the workplace." The Futurist, December, 1985, 8-11.

13. Drucker, P.F. "The discipline of innovation." Harvard Business Review, May-June, 1985, 67-72.

14. Fahey, Liam, William R. King and Vadakek, Narayanan. "Environmental Scanning and Forecasting in Strategic Planning - the State of the Art."Long Range Planning, 14 (1981), 2, 32-39.

15. Hearn, James C. and Richard B. Heydinger. "Scanning the external environment of a university: Objectives, constraints, and possibilities."Journal of Higher Education, 56, (1985), 4, 419-445.

16. Hirsh, R.F. "How success short-circuits the future." Harvard BusinessReview, March-April, 1986, 72-76.

17. Jonsen, R.W. "The environmental context of higher education." In P.M. Callan (Ed.), New Directions for Institutional Research: Environmental Scanning for Strategic Leadership (No. 52). San Francisco:Jossey-Bass, 1986, 5-20.

18. Kanter, R.M. "The reshaping of middle management." Management Review, January, 1986, 19-20.

19. Kast, Fremont. "Scanning the Future Environment: Social Indicators." California Management Review, 23 (1980), 1, 22-32.

20. Katz, R. L. "Excerpts from skills of an effective adminstrator." HBR Highlights, (1986, March-April), 172.

21. Keller, G. Academic strategy: The management revolution in American higher education. Baltimore: Johns Hopkins, 1983.

22. Klein, Harold E. and William H. Newman. "How to integrate new environmental forces into strategic planning." Management Review, July, 1980, 40-48.

23. Kirschling, Eayne R. "Models: Caveats, Reflections, and Suggestions," in New Directions for Institutional Research: Assessing Computer-Based System, edited by T.R. Mason, 9, 1-15. San Francisco: Jossey-Bass, 1976.

24. Masland, Andrew. "Simulators, Myth, and Ritual in Higher Education."Research in Higher Education, 18 (1983), 2, 161-177.

25. Morrison, James L. "Establishing an environmental scanning process,"in R. Davis (Ed.), Leadership and Institutional Renewal. New Directions for Higher Education No. 49, San Francisco: Jossey-Bass, 1985, 31-37.

26. Morrison, James L. "Establishing an environmental scanning system toaugment college and university planning." Planning in Higher Education,15 (1987), 7-22.

27. Morrison, James L. "Report of the SCUP environmental scanning network." News from SCUP, 1986.

28. Morrison, J.L., Renfro, W.L., & Boucher, W.I. Futures research and the strategic planning process: Implications for higher education. ASHE-ERIC Higher Education Research Report No.9. Washington, D.C.:Association for the Study of Higher Education, 1984.

29. Murphy, Michael Francis. Environmental scanning: A case study in higher education. Unpublished doctoral dissertation, University of Georgia, 1987.

30. Pflaum, Ann M. and Timothy J. Delmont. "External Scanning in Public and Private Organizations: Implications for Strategic Management in Higher Education." Address at Association for InstitutionalResearch Conference, Portland, Oregon, April 25-May I, I985.

31. Quinn, J.B. "Managing innovation: Controlled chaos." Harvard Business Review, May-June, I985, I9-20.

32. Renfro, William L. "Environmental Scanning Detects Signals of Change."Association Management, 35 (I983), II, I40-I43.

33. Schmidtlein, Frank A. "Information Systems and Concepts of Higher Education Governance." In New Directions for Institutional Research:Appraising Information Needs of Decision Makers, edited by Carl R. Adams, I5, 29-42. San Francisco: Jossey-Bass, I977.

34. Segeu, Eli. "How to use Environmental Analysis in Strategy Making." Management Review, March, I977, 4-13.

35. Simpson, E.G., McGinty, D. L., and Morrison, J.L. "Environmental scanning at the Georgia center for continuing education: A progress report." Continuing Higher Education Review, Autumn, I987, I-I9.

36. Stoffels, John D. "Environmental Scanning for Future Success." Managerial Planning, Nov./Dec., I982, 4-12.

37. Terry, P.T. "Mechanisms for Environmental Scanning." Long Range Planning, 10 (I977), 6, 2-9.

38. Thomas, Philip S. "Environmental scanning: The state of the art."Long Range Planning, 13, February, I980, 20-28.

39. Ziegler, W. L. An approach to the futures-perspective. Syracuse, NY: Syracuse University Research Corporation, Educational Policy Research Center, 1972.